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BISNIS Search for Partners – Leads from the BioIndustry Initiative

INDUSTRY:

**MEDICAL
EQUIPMENT AND
PRODUCTS,
PHARMACEUTICALS,
HEALTH CARE
SERVICES**

COMPANY / INSTITUTE:

State Research Institute
of Highly Pure
Biopreparations, St.
Petersburg
www.hpb-spb.com

COUNTRY: Russian
Federation

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NANOTECHNOLOGY-BASED IMMUNOACTIVE ANTIMICROBIAL COMPOSITIONS

ABSTRACT: Highly Pure has utilized nanotechnology to develop a new class of silver-containing topical compositions containing immunologically active antimicrobial agents. The nanoparticulated gels were designed for treating burns and trophic ulcers in difficult cases of immunosuppressive etiology. The Institute has made a breakthrough in achieving compatible coexistence of antibacterial silver with mediators of immune response in the compositions. Silver has long been used in clinical practice as an effective antimicrobial agent against multi-drug resistant wound infections. But attempts to use antiseptic silver in combination with immunologically active cytokine in one formulation have to-date, not been successful because silver diminishes the biological activity of exogenous cytokines. The problem has been solved by the invention of an original nanostructured gel pharmaceutical formulation. In the course of preclinical studies, it was shown that the composition loaded by nanoclusters of silver and one of the representative cytokine (interleukin-1 β) had the high bactericidal and anti-inflammatory activity. Application of the invention to pressure sores, chronic ulcers and burns can reduce the duration and cost of treatment.

TYPE OF PARTNERSHIP OFFERED: Licensing and alliance with a pharmaceutical company for global market entry.

COMPANY / INSTITUTE ROLE: Licensing of the method for obtaining nanostructured gel pharmaceutical formulation and co-development for regulatory approval on international markets.

CURRENT STATE OF DEVELOPMENT: Design of Phase I Clinical Trials.

INTELLECTUAL PROPERTY STATUS: The nanotechnology method of immunologically active antimicrobial composition is being patented and will become available for licensing to pharmaceutical manufacturers.

OTHER INFORMATION

Institute representatives will be attending BIO2006 (Chicago, April 9 – 12, 2006) and welcome the opportunity to meet with interested parties during the event. For more information:

<http://www.biistate.net/docs/bio2006.php> or email: EurasiaBio2006@biistate.net

ABOUT THE INSTITUTE:

Highly Pure specializes in novel therapeutics and diagnostics based on immunological principles: particularly, the production of cytokines and peptides of medical interest; novel drug delivery systems; new adsorption materials for purification of proteins and extracorporeal therapy. Highly Pure's staff includes 300 highly skilled biologists, physicists, chemists, physicians, mathematicians and engineers. The Institute has pilot production facilities that are certified by the Russian Ministry of Health and Social Development to manufacture drugs based on its proprietary gene-engineered proteins and synthetic peptides. This facility is currently being upgraded to comply with international cGMP. Highly Pure manufactures the following biopharmaceuticals for domestic and near-abroad markets:

- Betaleukin® – the world's first drug based on the recombinant human interleukin-1 β for oncology, infectious diseases and for protection from radiation;
- Epocrin® - based on recombinant human erythropoietin, for therapy of oncologic and infectious diseases;
- Interalf® – based on recombinant human interferon α -2a, for therapy of oncologic and infectious diseases
- Allokin-alpha® – synthetic peptide-based drug for the treatment of genital Herpes and other viral diseases;
- Glutoxim® - synthetic peptide-based immunostimulatory drug for the therapy of oncologic and infectious diseases;
- Bestim® - immunostimulatory peptide-based drug for therapy of infectious diseases and for protection from radiation.
- Vitaflor™ – a complex bacterial preparation for prophylaxis and treatment of dysbacteriosis
- Chitoskin™ – biodestructable wound healing bandages based on chitosan and collagen for the therapy of wounds, burns, ulcers, and skin inflammations

MAJOR CUSTOMERS / INTERNATIONAL EXPERIENCE:

Biopharmaceuticals manufactured by Highly Pure for domestic and near-abroad markets are sold through the major pharmaceutical products distributors on those territories. Researchers at the Highly Pure are collaborating with scientists at top universities in the U.S., such as the Yale University School of Medicine, the University of North Carolina, and the University of California at Berkeley, the National Institute of Health, and the Massachusetts General Hospital, among others. Highly Pure has extensive experience with international grants from organizations such as the International Science & Technology Center (www.istc.ru) and the US Civilian Research & Development Foundation (www.crdf.org).

PARTNERSHIP OPPORTUNITIES FROM BII. The BioIndustry Initiative (BII) is a nonproliferation program of the US Department of State's Bureau of International Security and Nonproliferation - Office of Cooperative Threat Reduction (ISN-CTR). BII's mission is to counter the threat of bioterrorism through targeted transformation of former Soviet biological weapons research and production capacities.

DISCLAIMER. The leads are sourced by the BioIndustry Initiative through our partner organizations in Russia and other Eurasian countries. Leads are provided solely as an information resource and do not represent an endorsement by BII or the U.S. Departments of State and Commerce. Verification of the leads is the responsibility of the reader. Assistance conducting due diligence and negotiations with Eurasian companies/institutes may be provided in some cases. Contact BII for more details: bii@biistate.net.